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St. Bartholomew's Hospital Journal,

JULY, 1902.

"Æquam memento rebus in arduis
Servare mentem."—*Horace,* Book ii, Ode iii.

The Requirements of a Modern Hospital.

The Summer Mid-sessional Address to the Abernethian Society, by W. BRUCE CLARKE, Esq., F.R.C.S.

WHEN I was asked to deliver before the Abernethian Society this summer the Mid-sessional Address I felt that if the honour which was conferred upon me was great, the responsibility which I incurred in selecting a subject was far greater. After turning over in my mind the various themes which were suitable for the purpose, I came to the conclusion that no subject could claim fuller attention at the present time than the one I have chosen, viz. "The Requirements of a Modern Hospital." It is somewhat outside the scope of ordinary medical knowledge, and yet much of the success of our treatment of our patients, or at any rate their speedy recovery, depends upon the knowledge which we possess of what a modern hospital should be; and it is only by glancing, at any rate in a cursory manner, on what has been achieved in various hospitals, and by a right understanding of why certain methods of construction are adopted and others are tabooed, that we can hope to answer this question.

I propose to preface my remarks by defining what a hospital is,—perhaps I should say what it ought to be.

To start with, it is a place for the reception and cure of the sick poor; and such being the case, whether it is supported by endowment, out of the rates, or by voluntary contributions, the necessity for economy is obvious, and it should be so arranged and constructed as to enable a staff of medical officers, nurses, and others to attend to the needs of a large number of sick people. This necessitates the grouping of patients in wards of a certain size.

But from the point of view of the community a hospital has another important function, which has been pithily put by Galton in the following words:—"It is the technical school in which the medical student must learn his profession, and it is an experimental workshop in which the matured physician or surgeon carries on scientific research."

Some would tell us that we have abundant evidence to show that the best results of treatment are not always attained in hospitals. No experience on this point is more valuable than that which has accrued from the great wars of the last hundred years. The results of hospital treatment during these wars have been by no means uniformly successful. In the Crimean war, for example, the mortality of those treated in the badly drained and ill-ventilated hospital at Scutari was upwards of 42 per cent., whilst it was less than 3 per cent. in the wooden huts at Balaclava.

It is such facts as these that have led many in the past to declaim against hospitals altogether, and even to speak of them as a curse to civilisation. In 1812 Sir John Pringle, in his *Observations on Diseases of the Army*, says, "Hospitals are the chief cause of mortality in the army."

The faults of a hospital may be faults of construction or faults of management. The latter may be at fault in any hospital, but a hospital cannot be economically or efficiently administered where the construction is bad to start with.

A good hospital may be summed up in the two words *ventilation* and *sunlight*. All good methods of construction aim at making them as perfect as possible. We will begin by considering the ward in which the patient must be treated, as it forms the key-note to the hospital system.

THE WARD UNIT.

I have just pointed out that if due regard is to be paid to economy of administration the patients in a hospital must be grouped together in wards, and the first question, therefore, to be determined is what number can be treated together most advantageously. Experience has shown that when from twenty-five to thirty patients are placed together in one ward the most satisfactory condition is reached. Some writers on the subject pass at once to the question of the number of cubic feet of air required per patient, and from this factor deduce the cubic area of the ward, whilst they ignore the question of floor space. A moment's reflection will, I am sure, convince you of the extraordinary results which such a mode of calculation might produce, I might say has produced, as the following example will show. Some years ago an order was issued for the construction of a hospital in India, and the cubic space per bed was arranged for, possibly by a War Office official. The hospital was built, and the requisite cubic space provided, but when the bedsteads and ward furniture were supplied it was discovered that they could only be got into the wards by placing them so close together that it was quite impossible to bring the patients in unless they were to be handed over the beds. The floor space had been ignored, and the height was ridiculously excessive.

Floor space is the first consideration, and having once settled that there shall be twenty-five or thirty patients in a ward, the floor space which is demanded per bed must be thought out, and from this the satisfactory form of ward can be deduced.

In the Middle Ages questions of hygiene did not enter into the consideration of our forefathers, and it is interesting to recall for a moment the way in which they solved the ward unit question. At Angers, in France, is a large hall with a vaulted roof, divided by two rows of columns into three aisles. At least four rows of beds could be placed between the external walls, but it is far more likely that each aisle contained two rows, making six in all. The windows were placed high up on the wall, the height from floor to sill being about sixteen feet. A similar arrangement exists at Ourscamp, and at Chartres. At Tonnerre is an example of a ward built towards the end of the thirteenth century. It consists of a great hall, at one end of which was formerly a staircase, an entrance porch, and a small chapel. At the opposite end was an apsidal chapel, containing a high altar with two side chapels, and the tomb of the foundress, Marguérite de Bourgogne, Queen of Sicily, the whole having been enclosed by a screen, across the top of which was a gallery affording means of communication between the two galleries which ran one along each side of the wall. The beds were placed in alcoves or cubicles, forty in number, and the side galleries referred to were intended to afford means of supervision from above. The window-cills were above the floor of the galleries, and consequently must have been some twelve feet above the ground-floor. What with the wooden partitions of the cubicles, the overhanging galleries, and the great height of the window-cills above the floor, the chance of the patient getting any change of air must have been small indeed, notwithstanding that the apex of the open roof must have been something like fifty feet above the floor.

I have brought these examples before your notice in order to show you how many faults it is possible to introduce into a hospital ward, and how little regard was in these instances paid to either sunshine or ventilation. The construction of these wards was, no doubt, handed over to the architect, whose attention was largely directed to the construction of ecclesiastical and monastic buildings, and he produced a ward which was largely determined by these considerations. It was well-proportioned and extremely picturesque, but it was absolutely useless for the purpose for which it was intended. If you were to ask an architect to design for us a hospital ward to-day, without giving him special instructions as to floor space, etc., you would very possibly obtain an equally disastrous result; and when you have given your instructions you will need to exercise a keen supervision if you are to prevent the sacrifice of efficiency to considerations of architectural effect.

Our own hospital is planned upon the double ward system, and does not admit of cross-ventilation, which is now looked upon as essential. At the time at which it was constructed it was admirable, and far in advance of its time. To-day the vast consensus of opinion is in favour of the pavilion system of ward construction. A *pavilion ward* is one whose walls are in contact with the air on three sides, whilst it communicates with the rest of the building by means of doors on the fourth side. The windows should be placed directly opposite one another, the arrangement being a bed and window alternately down each side of the ward. The next question to be considered

is, how many wards is it advisable to place one above the other? In many parts of Germany and of America hospitals have been constructed of one story only, and they are cut off from the neighbouring wards by considerable intervening air spaces. Such a system is impossible in large towns where land is valuable, and it is far more costly in administration, whilst it is difficult if not impossible to prove that it is even needful. The institution of a fair comparison between different hospitals where different constructional arrangements prevail is exceedingly difficult. There are so many disturbing factors. The cases are not equally severe, and the nature of the cases is exceedingly variable. There is no doubt that the grounds which led to the condemnation of lofty hospitals were the constant recurrence of septic diseases in the upper stories of the buildings. This was especially the case in the old Hôtel Dieu in Paris, but further experience has shown that this condition of things was largely due to inefficient ventilation, which permitted the foul air of kitchens, laundries, wards, and mortuaries to mingle in the upper floors of the building, and produce havoc amongst the patients.

By important structural alterations and judicious attention to sanitary details septic diseases have been practically abolished in almost all hospitals, and a three-story ward block is now recognised as a reasonable compromise in this country, at any rate for a town hospital.

We have reached, then, this point in the ward unit. The wards must be constructed on the pavilion system, and should contain from twenty-five to thirty beds apiece; and three wards, one over the other, make up a single block, which will contain from seventy-five to ninety patients. Let us take the smaller number for argument's sake, and we shall be able to house seventy-five patients in each block.

Just as the ward is the unit of hospital construction, the floor space which is necessary for each patient will give us the needful area and arrangement for each ward. It may be worked out as follows:—The ordinary hospital bed is 6 ft. or 6 ft. 6 in. by 3 ft., and it should stand out from the wall about a foot in order to allow of the free circulation of air around it. It should be placed at least 4 feet from the next bed, and a greater distance is desirable if the hospital is to be used for purposes of clinical instruction.

There should be a passage up the centre of the ward, if possible, of from 10 to 12 feet in width between the feet of the beds. If the width of the ward will not permit of this, then the distance between the beds must be greater than 4 feet—a condition which obtains in most of our present wards. Thus experience has shown that a floor space of about 100 square feet is required for each bed, and if the ward is from 12 to 13 feet in height each patient will obtain a cubic space of from 1200 to 1300 cubic feet. It is impossible to lay down any absolute hard and fast rule for the floor space necessary per bed. A hundred feet is certainly none too little, and where infectious cases are admitted is certainly insufficient. In hospitals which are employed for the purposes of clinical instruction a larger bed space will be found to be very convenient.

WARD ACCESSORIES.

Having shown how the ward area is obtained, we must now turn our attention to those accessories to the ward without which its proper working is impossible.

Baths and lavatories are the first need. Though it is customary to place the bath-rooms and w.c.s in close proximity in order to economise the plumber's bill, it is by no means necessary that they should be so arranged; indeed, there is much to be said in favour of their separation, and it is questionable whether in the long run the expense of this plan would be any greater. In the case of the baths it is unnecessary that there should be a disconnecting lobby between it and the main building; and the more it is incorporated with the main block the less is the waste of heat from the pipes by radiation, and the less liable are the patients who use them to catch cold, whilst the need for the bedside bath and the labour it entails is minimised, especially if the bath-rooms are capable of being artificially heated.

W.c.s would be all the better for being cut off even more than they are in most hospitals at the present time. It is interesting to remember the object lesson which we possess in most of the old collegiate buildings at Oxford and Cambridge. The w.c.s are placed well away from the living rooms, not even under the same roof, and as a result a college epidemic is practically unknown. A similar arrangement exists at the Homerton Fever Hospital, where it is very successful, and not found to be detrimental to the patients.

A small ward kitchen, or duty room, as it is styled in some hospitals, because the nurses who are on duty sit there when their services are not needed in the ward, must be provided. In it some articles of food will be kept, and some small culinary operations performed. The actual work that is done in the ward kitchen varies considerably in different establishments, but in none can it be entirely dispensed with. A sisters' room must be provided as well. Cupboards in abundance are needed for various purposes, for patients' clothes, linen, food, medicine, poisons, dirty linen, coals, etc. In a short account of hospital needs, such as the present must necessarily be, it is impossible to specify for the exact needs of a ward; they will differ somewhat according to the purpose for which the ward is employed; but one cannot emphasise too strongly the need that exists for an orderly arrangement in all such details of hospital management. There must be space enough to allow everything to rest in its proper place, and none to spare, which only means extra labour to keep it clean, and

absolute certainty that if it is not needed no one will look to see whether it is clean or not.

Separation rooms.—Quite apart from the question of the need for isolation wards, which will be considered later on, comes the need for one or two separation rooms placed near the entrance of each ward. They are urgently needed for a patient who suddenly becomes noisy and suffers from D.T., whilst for cases recently operated on they afford a means of quiet which is unattainable in a large ward. A case brought in during the night, who may very possibly be drunk, may be placed there till he has got over the effects of his carouse without endangering the peace or interfering with the comfort of other patients. Such a room may be used for minor operations, and so relieve the chief operating theatres, but their beds must be always held in hand as emergency beds, and never reckoned as part of the general service of the ward.

If balconies and day rooms can be provided in addition, so much the better; if not, it is possible to utilise these separation rooms for day rooms when they are not in use for other purposes.

A clinical workroom should form an integral part of each ward in a hospital where clinical instruction is given. In it the examination of urine, sputa, etc., can take place, and the presence of a few blinds and a lamp will enable ophthalmoscopic examinations to be readily performed in it.

In connection with each ward unit a couple of lifts should be provided, one for passengers, and another to convey soiled linen, coals, etc., in suitable pans or boxes. The service lift should preferably be situated in the open air.

Thus far, then, we have considered first the ward, and now have discussed in somewhat general terms its necessary accessories, and have decided that a three-story building is admissible. This gives us our ward unit of seventy-five beds and six separation rooms, each with a bed in it, which be it remembered is only to be used for emergency purposes, as has been already indicated.

The next question is, what are the general principles on which the ward unit should be constructed? It is desirable that it should be raised some three or four feet above the level of the surrounding ground, and if possible that there should be a free current of air passing through the basement. The exterior needs no special decorative treatment: if it is well proportioned and a simple stringcourse is run round to near the level of the floors, and the windows are placed at proper uniform distances, it will be simple in construction, and present a pleasing effect to the eye. Let me here emphasise the fact that the arrangement of the beds inside the ward depends largely on its shape, and on the way in which the windows are arranged. We have already seen that at least four feet of space must be left between the beds for convenience of working. It is this space which mainly governs the size and arrangement of the windows; and just as the beds, when placed exactly opposite each other, contribute to internal economy of space, so the placing of the windows opposite each other is essential to efficient cross-ventilation.

There is perhaps no subject about which so much difference of opinion in detail exists as on warming and ventilation. All are agreed on the necessity of ventilation, on the general principles which determine the quantity of air to be supplied, and on the need for frequent change of air, but how best to carry out these principles is quite another matter. If an attempt is made to change the air of a room much more than three times an hour most people complain of a draught, hence the tendency in some minds to rely on artificial ventilation and warmed air. Here, again, we are met with difficulties. Air which is warmed is liable to be burnt, and become unpleasant to the senses. Even if it is not burnt, its passage over hot plates for the sake of warming through various channels does not tend to its cleanliness. The channels get foul in time, and no satisfactory plan has yet been devised on a large scale for getting at these channels for cleansing purposes, not to speak of the expense both of construction and maintenance which such a system involves. The old infirmary at Derby is a striking example of good intentions frustrated by the stern facts of everyday life. It was built in 1805, and fitted up with what was then deemed to be, and very possibly was, an excellent system of artificial ventilation. A stove was placed in the basement, over which the air passed and was distributed by a series of brick channels to the various parts of the building. The air to supply this stove was brought from the top of the tower, situated some seventy yards away, through a brick channel four feet square. There was an air inlet from this system of channels in connection with the closets and an upcast shaft, which was so contrived that every time the air door was opened fresh air was admitted, and the foul air passed along the upcast shaft. At least theoretically this was what took place. A few years ago it was discovered that rats had made their way from the drains to the air shafts, so that a free communication existed between them, and the rats had access to the whole building, with this result —that repair was practically impossible, and a new hospital had to be erected.

It may readily be conceded that no artificial system of ventilation would be constructed on similar lines to-day, and that glazed stoneware pipes are proof against the destructive habits of rats; but the moral still remains that decay is inherent in all construction, and if proper means of access are not provided to every part of a building for purposes of repair disastrous results will be sure sooner or later to follow.

The most noteworthy modern instance in this country, at any rate, of artificial ventilation is the Birmingham General Hospital, to which the air is admitted after being washed and filtered along huge subways, and driven by

fans into the wards, which depend entirely on this system for their air. At present there is no doubt it is reasonably successful, but to a stranger the hospital atmosphere is not altogether agreeable, and it is still open to doubt whether the results justify the outlay that was necessary to carry out this system.

Simplicity should be the key-note of ventilation, as of everything else that is intended to stand the test of time and experience. A natural system of ventilation which depends for its efficiency on doors and windows, the latter being carried close up to the ceilings, aided by fire-grates and some accessory openings in the walls, preferably under the beds, which openings can be closed if needed, can hardly go wrong, and if it does is easily set straight in a few minutes, and can readily be modified to suit the direction of the wind or the temperature of the outside air.

Artificial ventilation demands either a forced inflow or forcible extraction of the air by means of fans, possibly a combination of both. It may, as we shall see later, be reasonably applied to an operation theatre, but it has never been proved to be necessary in all parts of a hospital.

The *warming* of a large building is intimately associated with its ventilation, and where artificial ventilation is employed must necessarily form an integral part of it. If natural ventilation is adopted, then the warming must be considered separately. Nothing in this country, at any rate, has given place to the open fire or some modification of it. The general plan now adopted is to place the stove in the centre of the ward, supplying it with fresh air from the outside, which is passed into the ward, and forms a considerable addition to the radiant heat that is derived from the fire itself. The heat given off by the smoke flues is also utilised, and the introduction of hot water or steam coils gives additional warmth if needed.

It now only remains to consider the roof, and the ward unit is complete. There is much, it seems to me, to be said in favour of a flat roof formed of nine inches or more of concrete and iron girders, and covered with the hard asphalte which is employed in so many of the streets of the metropolis. Such a roof affords ready access for general repairs. It is exceedingly durable, keeps the top wards warm in winter and cool in summer, and affords ample space for convalescent patients, or for those whom it may be thought desirable to treat in the open air. It can be readily reached either by lift or staircase, is practically fireproof, and shuts off no sunlight or air from neighbouring buildings.

To complete our hospital so far as its wards are concerned we have only to repeat our ward unit a given number of times. Thus nine blocks, each containing a ward unit of seventy-five beds, would furnish 675 beds; and if it be supposed that one ward unit is always empty for purposes of cleaning, such a hospital would have 600 beds always available for its ordinary service.

Isolation beds.—The subject of isolation has already been referred to in connection with each individual ward, but in addition to these beds it is generally conceded that it is necessary to provide in one or more blocks some isolation beds for infectious cases, medical and surgical, for stinking cases, etc. It is customary to provide 10 per cent. of the whole service of the hospital as isolation beds, say seventy beds in addition to the 675 already alluded to.

The ward unit in which these beds are placed will require a slightly different treatment from the others. In the first place it has to provide for a variety of infective diseases which need to be separated from one another, and which some authorities would prefer to see in separate buildings; and in the second place, the floor space for infective cases must be larger than that allotted to ordinary hospital cases. Probably from 1500 to 2000 cubic feet of ward space is none too much, and from 150 to 200 square feet of ward area.

An operating theatre must next be considered, and where the aggregation of ward units brings up the number of beds to 600 or 700, probably four or five theatres would be required, as well as one or two small ones for eye work and diseases of women.

The general requirements of such theatres are much the same. The modern custom is to mass all or most of them together from motives of economy and efficiency. There is, however, a good deal to be said from many points of view for providing an operation theatre for each ward unit or pair of units, as this arrangement avoids the necessity for removing patients who are very seriously ill to a considerable distance for purposes of operation. It is of course only with a small minority of the cases that these difficulties occur; and another way of meeting this difficulty is either by providing accessory rooms in connection with a ward where urgent operations can be performed, or by arranging for a few extra beds in separate wards in close proximity to the operation theatres, where patients who have undergone serious operations may remain for a few days, till they can be moved with safety back into the ward.

Each theatre should have a superficial area of at least 400 feet, and be about 12 or 13 feet in height. If the hospital is used for clinical purposes a larger area must be provided, and one at least of the theatres should be large enough to contain a considerable number of onlookers. One set of washing rooms and lavatories for the surgeon, together with a similar set of washing apparatus for the house surgeons and students, serves for all the theatres; and a single sterilising room for dressings and other apparatus should be provided in close proximity to the theatres, though it will be employed for the wards as well as the theatres.

The operating theatre itself must be lined with some

non-absorbent surface,—for example, tiles, marble, glass, etc. All angles should be rounded, and every arrangement made for the complete cleansing and disinfecting of the theatre as often as may be needed.

When we were discussing the question of natural *versus* artificial ventilation in a previous part of this address, it was pointed out that a system of artificial ventilation was far more admissible, possibly we may add necessary, in an operating theatre than in a ward.

A system of this kind is already working in some of the new operating theatres of the London Hospital. Warm fresh air is admitted, after being properly washed and filtered through cotton wool, into the theatre by a forced draught, and by setting an exhausting fan to work, air can be passed through the theatre at any rate that may be desired. As a proof of the rapidity with which the air can be changed, if the theatre is filled with steam from a hose in order to precipitate the dust, it can be completely cleared and ready for operating in under three minutes, whilst the warm air that has been introduced has raised its temperature several degrees. It need hardly be pointed out that the adoption of such a system of ventilation practically necessitates the closing both of doors and windows whilst it is in operation. It is equally essential that every part of the air-passages should be open to inspection, so as to ensure that they may be periodically cleaned and repaired at once if a fracture occurs, which may become the means of drawing in foul air unconsciously into the very place where no expense should be spared to make it absolutely pure.

A disinfecting apparatus of some sort is an absolute necessity in a hospital, both for sterilising infected bedding, clothing, etc., and for the destruction of vermin. The only satisfactory apparatus for such a purpose is one which, for its efficiency, depends on hot dry steam. Five minutes' exposure in it is sufficient to destroy anthrax spores. Dr. Parsons, who was the first to call attention to this system in a Local Government Board report, contrasts amusingly the effect of hot air and steam on vermin, and points out that when hot air is used they gradually retire to centre of bedding or garment, where, as the thermometer shows, a high temperature is never reached, and as the chamber cools down return again to the surface to fan themselves in the fresh air. With steam under pressure they are killed before they have time to reach the cool and shady recesses of the interior of a down pillow.

An entirely separate department must be provided for the post-mortem room, mortuary, and pathological department. In addition to a post-mortem room, which should be of a size suitable to the hospital, a mortuary must be provided for the storage of bodies that are awaiting examination, and a mortuary chapel, which should be so treated as to indicate a reverent care for the dead. A cold storage chamber should now be provided in connection with every mortuary, so that the changes of decomposition may not be far advanced before the leave to make an examination is obtained. This is highly necessary in the interests of the pathologist, whose health is liable to suffer from his occupation; in the interests of science, as but little can be made out in tissues that are in an advanced stage of decomposition; and lastly, in the interests of the hospital generally, as any chances of infection and foul odours are thereby reduced to a minimum.

The efficient ventilation of the post-mortem room is of prime importance; it is remarkable how efficiently it can be carried out if proper care is taken. The best results are obtained by the employment of that plan which is known as the Webb system of sewer ventilation. An extraction shaft is provided at the top of the building and provided with a Webb gas lamp, which is lighted when required by means of a pilot lamp, very similar to the small gas jet that is used in connection with the Welsbach incandescent mantles. The foul air that is drawn by the lamp through the extraction shaft is subjected to a temperature of 600° Fahrenheit, and all disease germs and noxious gases are destroyed by it. This system is at present working at the London Hospital, and most efficiently removes all trace of odour from the post-mortem room within a few minutes after the examination is completed.

Closely adjoining the post-mortem room is naturally placed the pathological department, which now forms so necessary and, I may add, an increasingly necessary adjunct to hospital treatment of every kind. Not only are examinations of dead tissues carried out in this department, but rooms have to be provided for the examination of various pathological products from the wards, and laboratories for the director of the department and his assistants as well as for the instruction of students. *Indeed, without the assistance of students to carry on some of the routine work of the department, the expenditure which must be incurred by any large and properly equipped hospital would inevitably be much larger than it is.* A museum with adjoining rooms for microscopical, chemical, physical, and bacteriological research are urgently needed if the treatment of patients is to be satisfactorily and efficiently carried out.

But no hospital nowadays is complete without well-arranged quarters for its out-patient departments. The importance of completely cutting off the various departments and sections of a hospital from one another so as to lessen the chances of conveying infection has already been referred to, but to no department does this remark apply with greater force than the out-patient department. It is always liable to invasion by chance cases of eruptive fevers in their early stages. It is obvious, therefore, that no direct communication by means of covered passages should connect it with the main building. The first essential of such a department is a large waiting room, in which the patients can be so placed that they can be readily segre-

gated and passed to the sub-departments most suitable for their special ailments. Consulting rooms will naturally be arranged in close proximity to the waiting room, and will vary in accordance with the size and nature of the hospital. Each sub-department will need in addition one or two other rooms for the examination of patients for ophthalmoscopic examinations, for minor operations, and for the administration of chloroform. In a hospital where students are admitted it may be roughly calculated that about one thousand feet of floor space will be needed for each of the sub-departments on an average. Some of these, especially when they are resorted to by lame and crippled patients, should obviously be situated on the ground-floor, but much may be done by means of lifts to minimise the inconvenience of two- or three-story buildings, which are obviously an essential where land is valuable. The exit from each of these sub-departments should be separated from the inlet, and should be conveniently placed with reference to the dispensary where the medicines will be obtained; and the size of this sub-department again must be conditioned by the number of patients which it has to serve.

The accommodation of the nurses will occupy probably another block, and must be so placed that the nurses are within reasonable distance of their work, and if they are to be fed in the same block within a suitable distance of the hospital kitchen, which will probably be placed on the top of one of the blocks, and served by suitable lifts.

The resident staff's quarters are especially important, as they must be within easy access both of the wards and the out-patient department.

Lastly, there is the general administration block to be considered, which must be within easy reach of and in telephonic communication with all the various units, in order that an efficient and economical arrangement of the component units may obtain.

We have considered so far the various units of which a hospital must consist. In the case of some of them it has been possible to lay down with more or less approach to precision the floor space that each demands. In others the floor space will have been determined by the special needs of the hospital in question, and the special purposes for which it is constructed.

But perhaps the crux of the whole question is the arrangement of the various blocks of buildings with due regard to convenience, economy, and the placing of them at such a distance from each other that there may be a free circulation of air all round them.

The various ward units would probably be grouped together, connected by covered passages so contrived that whilst access from one block to another was easily obtainable, efficient means could be adopted of preventing the air of one ward from finding access to another.

The operating theatres would be in a separate part of the building, and the isolation and post-mortem departments thoroughly cut off, so that by no possibility could their foul air find its way into any part of the main ward buildings; and lastly, a place would be selected for the administration departments, which would enable them to keep closely in touch with all that was going on within the hospital walls.

It has sometimes been suggested that in the planning of a modern hospital, whilst the administration block should be handsome in appearance and substantially built, the modern ward should only be constructed to last fifty years, at the end of which time new counsels of perfection may prevail, and demand new and totally different appliances. This may be so. We cannot tell what discoveries the future may have in store for us, or how profoundly they may modify the construction of our towns or the arrangement of our hospitals. Even Mr. Wells cannot anticipate that for us. But the idea of building hospital wards which will be ready to tumble down at the end of fifty years is based on a misconception of the deeds and ideas of the jerry builder. By all means let a modern hospital ward be constructed, as I have already said, without lavish expenditure on any part of it, but it would have to out-Herod the works of Jerry himself, and bring itself into collision both with the district surveyor and the sanitary inspector, if it is to be a tumble-down structure in half a century.

The jerry builder is an interesting creature; he saves money in a variety of ways. Septic road sweepings are judiciously mixed up with sand in his mortar, and filthy dust with his cement when he uses any. Each door, window, fireplace, etc., is absolutely similar in form and construction, and so badly fixed to the walls that it loosens in a few years, possibly in a time which is limited only by months; but his walls do not tumble down.

If you return to your semi-detached house in the suburban row, having dined not wisely but too badly, and you are a little oblivious of the number of your door, it is of no consequence; your latch-key will fit the door of one of your neighbours as well as it does your own, and the key of your cupboard will soon disclose your neighbour's whisky, if he has any; and if at length you discover your mistake, and find your way into your own house, though you may imagine from the choice smell of viands that your wife has been entertaining visitors in your absence, you will find an easy explanation in the passage of your neighbour's cooking odours into your own kitchen.

These and many others are the pleasures of living in a jerry-built house; when once you have tasted them you will not wish to perpetuate them in hospital construction.

Rely upon it, that if a modern hospital ward is destined only to last fifty years, it will be far more economical to construct it soundly, plainly, and without ornament. A few years of experience will soon show you that nothing is so economical or so healthy in the long run as sound, simple construction.

On Retention of Urine.

A Clinical Lecture delivered by W. HARRISON CRIPPS, Esq., F.R.C.S., *on July 9th*, 1902.

(*Reported by* T. J. FAULDER.)

GENTLEMEN, I propose to-day to give some account of the treatment of absolute retention of urine. It is important that you should have certain principles in your mind, because you will be sent for in a hurry in these cases; you will have no time for reference, you will have to act on the spur of the moment.

The causes of retention of urine may be classified under four periods of life: infancy, young adult life, middle life, and advanced age.

Within limits each of these periods has its characteristic cause of retention.

A. Retention in a male infant may, it is said, occur from phimosis. I have never seen such a case. It is commonly due to a calculus impacted in the urethra.

Sometimes you will get a history from the mother that the child has been fretful and peevish of late, or has passed urine at inconvenient times and places. More probably there will be no symptoms until those of retention show themselves. The child is brought to you in great distress, having passed no water for, say, eighteen to twenty-four hours, and with a full bladder reaching, it may be, as high as the umbilicus.

On examination the calculus may often be felt through the penis or perinæum. If not, a small sound passed into the urethra will afford conclusive evidence.

The treatment of this condition falls under three headings:

i. Manipulation by gentle pressure may be successful in the removal of the stone, especially if it is in the penile urethra, or even if it be as far back as the perinæum. If this procedure fails—

ii. A pair of fine urethral forceps may be passed into the urethra and the stone grasped, and an attempt made to remove it, partly by traction on the forceps, partly by pressure of the fingers outside. A stone cannot, however, usually be removed in this way.

iii. Further measures are operative, and depend on the position of the stone, whether it is in front of or behind the scrotum.

α. If behind the scrotum cut down in the middle line of the perinæum and open the urethra. Wounds in this situation almost always heal well, and practically never leave a permanent fistula.

β. If in the penile urethra it is a very different matter. Wounds here very rarely heal, and the usual result is a permanent urinary fistula, difficult—nay, often impossible—to cure. Therefore take a sound and push the stone back behind the scrotum, and make your incision there.

I have never seen a stone so impacted in the penile urethra that it could be moved neither forwards nor backwards. In such a case you would have to cut directly down on the stone, close up the wound as rapidly and as completely as possible, and leave a catheter in the bladder for some days. There is then a chance, but no more than a chance, of healing.

B. *Retention in a young adult.*—Speaking generally, the commonest cause is an inflammatory condition of the urethra, and the usual form of this is gonorrhœa.

Curiously enough, the retention often does not occur until some time after the acute stage is past. Hospital patients frequently celebrate their recovery from acute gonorrhœa by a visit to the public-house. Subsequently they get difficulty and then inability to pass water. Their appearance in the surgery is characteristic.

Acute retention from this cause is far more uncomfortable than is retention from stricture, for the bladder is not accustomed to distension, as it is in the latter case. The patient is in great distress. The old-fashioned treatment invariably was a hot bath and a dose of opium, etc. The real treatment is to let the patient lie down and to pass a soft catheter. You must remember that in most of these cases there is no stricture. Take a No. 7 or No. 8 soft rubber catheter and empty the bladder. Instruct the patient not to wait too long before trying again to pass water by himself.

In some cases, generally as a result of bad treatment elsewhere, you will have difficulty in passing a catheter. The mucous membrane is very soft, and if a small metal catheter be used, it is extremely easy to make false passages. In such a case it is best to try a large, say No. 12, soft catheter, possibly under an anæsthetic. I have never failed to pass a full-sized soft catheter in these cases. However, if necessary, you may try a metal instrument, remembering to keep its point along the roof of the urethra. If these attempts all fail, the next thing to do is to aspirate the bladder above the pubes.

Here I must pause to discuss aspiration as opposed to puncture.

Aspiration is very simple. You take a very fine capillary aspirator, about the thickness of a hypodermic needle, and four to four and a half inches long. A small incision, about a quarter of an inch long, is made through the skin just above the pubes, and the trocar and cannula pushed into the bladder to a distance of about four inches, keeping the point sloped in the direction of the anus. Remove the trocar and turn the patient on one side, so that the urine may drip into a vessel. Allow plenty of time for the bladder to be completely emptied. On removal of the cannula the tiny puncture is completely closed by elastic contraction, and there is no risk of leakage. It is a simple

operation, but cannot of course be repeated indefinitely. If in any case you desire to leave a drain in the bladder for some time, the method to use is puncture. For this trocars are used, which run the same sizes as catheters, No. 1, No. 2, etc.

I will here digress a little to explain why puncture formerly failed so often, and resulted in extravasation of urine into the pelvic cellular tissue. The bladder, having been emptied, contracted down away from the cannula, and as soon as urine had again collected, it passed out of the puncture into the cellular tissue, in many cases with disastrous results.

The right method is to have by you a soft catheter which will pass easily through the cannula you are using, to make a short (quarter of an inch) incision, insert the cannula, and, when urine appears, thread the catheter into the bladder, finally removing the cannula over the catheter. Aim at leaving two inches of catheter inside the bladder, *i. e.* the base of the bladder being about five inches from the pubes in a not very fat person, leave about seven inches of catheter in the patient's body. Next fasten the free end of the tube to one side of the patient's abdomen by two pieces of plaster, and let him lie on his side, so that the urine may drip into a vessel. It is a very important practical point to have the catheter fastened to the abdomen in this way, and not fixed to the bed or to a vessel below the bed, as is sometimes done, by means of rubber tubing. Any sudden movement of the patient—for example, on waking from sleep—might dislodge the catheter, with fatal consequences.

C. *Retention in middle life.*—Stricture may occur at any age, but is much the most common from twenty to forty years.

The history which you get is generally very complete. The patient has had increasing difficulty of micturition for two or three years, for the last few weeks has passed water in a fine stream, for the last week in a difficult dribble, now he cannot pass any. You will find a very distended bladder. *Per rectum* you can feel a soft swelling, which bimanually is found to fluctuate.

Treatment.—First I wish to learn where the stricture is. It is usually at the junction of the membranous and bulbous portions of the urethra. For this purpose I take a No. 6 or No. 7 soft catheter. What I intend is, if possible, to pass an instrument and empty the bladder; failing this, to fall back on some operative procedure.

First get ready some soft rubber and some silver catheters.

The difficulty of passing a soft instrument is to guide it. Putting the penis slightly on the stretch is often advantageous. Having, then, let us say, localised the stricture with a No. 7 rubber, try the smaller sizes until you find one which enters. If you fail, fall back on your metal instruments, and knowing that the stricture is tight begin with No. 2, and go on to No. 1, or possibly No. ½.

In using a metal catheter you must have a definite plan. Consider the urethra as having a "roof," a "floor," a right and a left "side," and examine each in turn. Depress the handle and explore carefully the roof. Next try the right side, then the left, and lastly raise the handle and feel along the floor. Note that false passages nearly always open on the "floor."

There comes a time when you wonder if the point is in a false passage or not. The points to guide you are these:

α. Observe whether the instrument is at right angles to the long axis of the body.

β. Observe if it is rotated at all on its own axis.

γ. Try gently to withdraw it. If it is caught it is probably engaged in the urethra at the stricture.

δ. Pass the finger into the rectum and feel the point.

I recommend you the next time you have to pass a catheter in a normal urethra to find out what it feels like from the rectum. There should be one eighth to one fourth of an inch of tissue between the finger and the point. In the case of false passage the partition is very much thinner, and the point will feel as if about to pierce into the rectum.

By using instruments intelligently in this way, you can in most cases get one past the obstruction. If you fail, then you must have recourse to operation; you have the choice of aspiration, puncture, and perinæal section.

I cannot lay down laws to guide your choice. It depends mainly upon circumstances. For instance, if you are called to see the patient in his cottage at night, where there is no light but that of a candle and no assistance, temporary relief by aspiration is all that should be done. At your next visit you may puncture and leave the catheter *in situ* for a time. This gives the urethra rest, and may relax the stricture.

On the other hand, in a hospital with good light, good assistance, etc., I think it is better to do perinæal section in the first instance.

External urethrotomy is easy in a good light, extremely difficult in a bad light. Even in hospital practice, in the case of a patient admitted during the night, it may be well simply to aspirate, leaving perinæal section till later.

I pass over the details of the operation itself.

D. *Retention in advanced age* is nearly always caused by the prostate, and this occurs in two ways:

α. The middle lobe is enlarged and projects into the urethra, and the bladder, when distended, presses it down like a ball valve.

β. One lateral lobe is enlarged, the urethra becomes curved laterally, and again the pressure of a full bladder produces a ball-valve action.

Enlargement of both lateral lobes hardly ever causes retention.

Enlargement of the prostate, according to Sir Henry Thompson, never occurs under fifty-four years of age. I think we may allow a margin to this limit, and say that it is

practically never seen under fifty years. How does retention occur in elderly men with enlarged prostate? It occurs slowly. The patient for some reason, such as lack of opportunity, has passed no water for a long time, the bladder is distended, pressure is exerted on the enlarged lobe, he gets retention, and sends for the doctor. As a rule there is no difficulty in passing a fair-sized, say No. 8, rubber. If you fail with this, try a stiffer instrument. There is no better catheter to use than the French kind made of gum elastic spread on silk.

I keep a catheter specially made of double webbing except at the point. This can easily be made in an emergency by passing a No. 2 an appropriate distance into a No. 7. Sometimes the *coudé* variety is useful. Lastly, try a fair-sized, say No. 9, silver. This will probably pass easily until it reaches the neck of the bladder. Here it encounters firm resistance. In that case it is a valuable piece of manipulation to withdraw the catheter gently a quarter of an inch and depress the handle firmly between the patient's legs. The point slips up past the obstruction. The cause of this difficulty is a cul-de-sac formed by the projection forwards of an enlarged middle lobe.

In some rare cases all these means of relief fail; you may try Brodie's "over-curved catheter." The method of using this is to take out the stilette, straighten the catheter, pass it at once into the urethra, and as it automatically curls up, to try to push it onwards into the bladder. Almost as good a plan is to pass in a French catheter with stilette as far as it will go, and then partially withdraw the stilette. The effect of this is to cause the point of the catheter to curl forwards, and so pass the obstruction. So much for the general treatment of acute retention of urine.

Before I dismiss the subject I wish to consider what happens when urine is extravasated.

When there is a stricture, it is not the bladder but the urethra which ruptures—generally at a pouch of mucous membrane which has formed just behind the stricture. The patient is straining to pass his water when he suddenly feels a sharp cutting pain in the perinæum. For the time he may feel relieved, as the tension of his bladder is lessened, but very soon he has disagreeable burning pain in the perinæum; in two or three hours the perinæum swells up, and later the scrotum, penis, and side of the pubes. At this stage it looks like erysipelas of the scrotum, which is swollen, red, and œdematous.

In twenty-four hours the skin of the part is black and sloughing, *i. e.* the urine causes gangrenous cellulitis, and the patient is in a generally septic condition. Treatment must be by incision and drainage.

It is an interesting fact, that while in nine out of ten cases of extravasation of urine inflammation, etc., occur, in the tenth case no such thing happens. These latter cases are nearly all traumatic. The explanation is simple. As a sequence of stricture, the urine nearly always becomes ammoniacal and septic, whereas the urine of a healthy person is generally aseptic.

One word about catheters. You cannot be too careful of them. Silver catheters are of course easily kept clean. The difficulty is with the soft kinds. Keep these each in separate compartments in a box, otherwise they may adhere, so that, when separated, a rough line is produced. Do not buy too many of them at once. Simple flexible catheters keep for no length of time; they get stiff and crack easily. But whatever else you do, keep them all perfectly clean.

The Summer Concert.

THE Summer Concert, which was held on July 7th, was in every way successful. The Great Hall was even more crowded than in former years. Lit up by numerous fairy lights and Chinese lanterns the Square looked delightfully cool and inviting, and the Musical Committee tactfully allowed a long interval between the first and second parts of the concert; and many of those who, after the usual fierce scramble for ices, lingered in the Square listening to the distant strains of "Iolanthe," cordially echoed the sentiments of the fair visitor who remarked that "really hospitals were not such horrible places after all." Even summer concerts, however, have their drawbacks, and the continual dripping of warm wax from the lamps was decidedly annoying to most people. A very wise man wrote that "ointment and perfume rejoice the heart." That may be so, but they certainly do not improve dress clothes.

* * *

The musical part of the entertainment was remarkable for the galaxy of new talent displayed, three new soloists and a fresh conductor, both for chorus and orchestra, making their appearance, and worthily maintaining the high standard set by their predecessors.

The programme opened with Herold's "Overture to Zampa," which was well played by the orchestra. Mr. T. B. Davies then followed with "Ask nothing more of me, Sweet," by Marzials. It was his first appearance, and one may express the hope that it will not be his last.

Dr. Womack followed with a violoncello solo, an Adagio by Bargiel, and once more delighted his audience by his execution. Sister Luke, who followed with Haydn's "My mother bids me bind my hair," received a well-deserved encore. Two delightful piano solos by Mr. Baldwin were much appreciated, and made us wonder why we had not heard him before.

A summer concert would be incomplete without Dr. Samuel West, and the four short songs, three in German and one in English, which he gave delighted every one, and were warmly applauded.

The chorus brought the first half of the concert to a close with a part-song, "Hushaby, Baby," by Rowton, which was quite one of the prettiest we have heard at these concerts for some time, and reflected great credit on Mr. Nixon's successor. It is many years since the chorus were encored, and evidently, though their numbers are smaller than in former years, their quality has by no means deteriorated.

The second part opened with a selection from "The Pirates of Penzance," and showed us that, though we are the poorer by Mr. Nixon, we are the richer by Mr. Forster.

Mr. Bell was heard to advantage in "O dry those tears" (Teresa del Riego), with violoncello accompaniment by Mr. Hallowes.

This was followed by a second part-song, "Good night," by Pinsuti, which was well rendered.

After an admirable violin solo by Mr. A. Hamilton, Nurse March sang "The lark now leaves his watery nest," by Pelissier, and was not allowed to sit down again till she had given "Violets" as an encore.

The last item, the Junior Staff chorus "Here's a health unto his Majesty," as usual, was enjoyed by everybody, and brought an unusually good concert to a fitting conclusion.

The Eighth Decennial Club.

THE seventh annual dinner of this Club took place on July 11th at the Café Royal, and was fairly well attended. Dr. H. Morley Fletcher presided, and proposed the toasts of "The King" and "The Club." In a most eloquent speech Dr. Fletcher described the foundation of decennial clubs by Abernethy, and referred to the various famous Bart.'s men who have belonged to the many decennial clubs. He also pointed out that for the first time in its history the Eighth Decennial (or Contemporary) Club numbered among its members one of the senior staff of the Hospital—to wit, Mr. Waring. The toast of "The Chairman" was ably proposed by Dr. Steevens, and was drunk with much enthusiasm. In a characteristic speech Mr. Bailey proposed the toast of "The Secretaries," Mr. Waring and Dr. Drysdale, who briefly responded.

Notes.

SIR DYCE DUCKWORTH is to give the Opening Address of the Session 1902–3, on the 1st of October, at The Owens College of the Victoria University, Manchester.

* * *

WE venture to congratulate the Medical School on a most successful Prize Day. The presence of the Lord Mayor emphasised the intimate relations between the Hospital and the City, and furnished another illustration of the high regard of the City for its oldest Hospital. Our many guests spent an extremely pleasant afternoon, which was transformed by "tea in the Square" from a purely academic celebration into a delightful social function, and the proceedings were in every way worthy of the reputation of the Hospital.

* * *

AT the recent Intermediate London M.B. Examination nine out of ten candidates from Bart.'s were successful, and two of them, F. B. Ambler and J. C. Meade, obtained Honours.

* * *

WE beg to offer our apologies and congratulations to Col. Poynder, whose name we omitted from the list of Coronation honours to Bart.'s men. Lieut.-Col. J. L. Poynder, I.M.S., was awarded the Kaiser-i-Hind Gold Medal for "public services in India,"—a very high distinction.

* * *

FOR the first time in our history we have won the Inter-hospital Shooting Cup at Bisley.

The Annual Prize Day.

THE annual distribution of prizes took place on July 18th, and after a lapse of some years was once more held in the Great Hall. A very large number of visitors and students were present, and the Hall was crowded when the Treasurer rose to open the proceedings.

Sir Trevor Lawrence thought that the Medical School should be congratulated on reverting to the old custom of having a public prize-giving. He pointed out that in so doing they were coming into line with almost all large educational centres, including the other medical schools. Sir Trevor then called upon Dr. Calvert to read the report of the progress of the School during the past year.

Dr. Calvert proceeded to read the following report:

MR. TREASURER, MY LORD MAYOR, LADIES AND GENTLEMEN,—The number of students who entered during the year 1901–2 was 140. In the previous year the number was 142. The total number of students working at the Hospital was 519. In the number of full entries we still maintain the lead amongst the Metropolitan Schools of Medicine.

During the past year several changes have taken place in the Hospital staff. Mr. Willett has been appointed Consulting Surgeon, Mr. Cripps has become full Surgeon, and Mr. Waring Assistant Surgeon.

Mr. D'Arcy Power has taken over the Throat Department from Mr. Bowlby, Dr. Drysdale has succeeded Dr. Garrod as Medical Registrar, and Mr. Bailey has succeeded Mr. Waring as Surgical Registrar. Dr. Riviere has been elected Casualty Physician.

In the Medical School Dr. West is now Joint Lecturer on Medicine, Mr. Bowlby Joint Lecturer on Surgery, and Mr. Waring Joint Lecturer on Anatomy.

Dr. Drysdale has become Demonstrator of Morbid Anatomy, Dr. Williamson Demonstrator of Practical Midwifery, and Mr. Bailey Demonstrator of Practical Surgery.

In the Pathological Department, the work of which is constantly increasing, important additions to the staff have been found necessary. Dr. Garrod has been appointed Demonstrator of Chemical Pathology, Mr. Gask has been appointed Demonstrator of Pathology, Dr. Bainbridge and Mr. Rose have been appointed Junior Demonstrators of Pathology.

In the Department of Practical Anatomy Mr. Bailey and Mr. Mundy have resigned their appointments. Mr. Harmer has been elected Demonstrator, and Mr. C. E. West succeeds Mr. Douglas as a Junior Demonstrator.

Mr. Beckton and Mr. Gauvain have been elected Assistant Demonstrators of Biology. Mr. E. Brewerton has succeeded Dr. Scholberg as the Treasurer's Research Student.

Among the distinctions won by St. Bartholomew's men during the past year, the first place must be given to our Senior Physician, Sir Wm. Church, who, in March last, was elected for the fourth time President of the Royal College of Physicians, and more recently the King has added still further to Sir William's weight of honours by giving him the *K.C.B.* One of our Consulting Surgeons, too, Sir Thomas Smith, whose name has recently been so much before the public in connection with the King's illness, in March of last year was appointed Hon. Sergeant-Surgeon to the King, and in the following July he received the *K.C.V.O.*

Dr. Gee has been appointed Hon. Physician to the Prince of Wales.

Mr. Alfred Cooper and Dr. Job Collins—both of them old students of this Hospital—have received the honour of knighthood.

Dr. Ronald Ross, whose researches in malaria are so well known, has received the *C.B.*

At the Royal College of Surgeons.—Mr. Marsh has been elected the Bradshaw Lecturer, Mr. Eccles has given the Hunterian Lectures, and Dr. C. P. White has given the Erasmus Wilson Lectures.

In the City of London itself, my Lord Mayor, I may point out that we have recently done very well:—Dr. Collingridge has been appointed Medical Officer of Health, Dr. Waldo Coroner, and Dr. Williams has succeeded Dr. Collingridge as Medical Officer of Health to the *Port* of London.

And to this list of distinctions, sir, which could easily be extended, I have much pleasure in adding the name of one of our students—Mr. Hogarth, formerly of Christ Church, Oxford—who, like so many of our students, volunteered for active service in South Africa, and won there the medal for distinguished conduct in the field.

And in examinations we have fully maintained our reputation.

At the University of London.—Twenty-three men have taken the degree of Bachelor of Medicine; Mr. C. J. Thomas obtained the scholarship and gold medal in medicine and a gold medal in obstetric medicine; Mr. A. E. Thomas obtained a gold medal in forensic medicine and second class in medicine; Mr. E. E. Young obtained first-class honours in obstetric medicine.

At the intermediate M.B. examination, Mr. E. E. Maples obtained a gold medal in anatomy, first-class honours in materia medica, and honours in organic chemistry; Mr. K. S. Wise obtained honours in physiology and in organic chemistry.

Five men have obtained the degree of Bachelor of Surgery, Mr. Ridout obtaining honours.

Six men have taken the degree of Doctor of Medicine.

At the University of Cambridge.—Nine men have taken the degree of Doctor of Medicine, Dr. Langdon Brown obtaining the Horton-Smith prize. Nineteen men have taken the first part and thirteen men have taken the second part of the final examination for the degree of Bachelor of Medicine.

At the University of Oxford.—Four men have taken the degree of Bachelor of Medicine.

At the Royal College of Surgeons.—Twelve men have taken the final examination for the Fellowship.

At an examination for the *Indian Medical Service* Mr. A. E. J. Lister obtained the first place, and Mr. Lister was again placed first on passing out of Netley.

At the examination held last May for the *Naval Medical Service*, Mr. C. M. Morris obtained the first place.

Turning to the athletic side of the School, we may be said to have done fairly well. We still possess the Inter-hospital Athletic Shield, and we have won this year the Inter-hospital Cups for Shooting and Hare and Hounds.

In conclusion, sir, the medical officers and lecturers wish to thank the Treasurer and Governors of the Hospital for the interest they take in the welfare of the School—an interest necessary to the School, and necessary also to the great Hospital to which it is attached, seeing that the work of both is so closely associated that whatever affects the one must equally affect the other.

Mr. Waring read the list of prize winners, which was as follows:

EXAMINATIONS, 1901–2.

Lawrence Scholarship and Gold Medal.—R. C. Elmslie.
Brackenbury Medical Scholarship.—A. E. Thomas.
Prox. Acc.—W. W. Jeudwine, E. G. Pringle.
Brackenbury Surgical Scholarship.—F. P. Connor.
Matthews Duncan Medal and Prize.—A. R. Neligan.
Senior Scholarship in Anatomy, Physiology, and Chemistry.—J. G. Atkinson.
Senior Entrance Scholarships in Science.—J. M. Hamill, R. F. Moore.
Junior Entrance Scholarship in Science.—H. E. Quick.
Preliminary Scientific Exhibition—D. W. Hume, A. M. Jukes.
Jeaffreson Exhibition.—A. Kernahan, E. de Verteuil.
Shuter Scholarship.—J. K. Willis.
Kirkes Scholarship and Gold Medal.—E. G. Pringle.
Bentley Prize.—Not awarded.
Hichens Prize.—K. S. Wise.
Wix Prize.—Not awarded.
Harvey Prize.—F. B. Ambler.
Sir George Burrows Prize.—E. G. Pringle.
Skynner Prize.—E. G. Pringle.

Practical Anatomy (Junior).	*Practical Anatomy (Senior).*
Treasurer's Prize.—P. L. Giuseppi.	*Foster Prize.*—F. B. Ambler.
2. A. M. Jukes.	2. C. B. D. Butcher (*Lecturer's Prize*).
2. S. S. Rendall.	3. E. H. Shaw.
4. J. E. H. Roberts.	4. M. B. Reichwald.
5. H. R. Prentice.	5. B. E. Moss.
6. C. A. Stidston.	6. W. G. Ball.
7. A. Abrahams.	7. J. E. Pratt.
8. G. W. Lloyd.	

Junior Scholarships in Anatomy and Biology (1902).
1. P. L. Giuseppi. | 2. H. E. Quick.

Junior Scholarships in Chemistry and Histology (1901).
1. F. B. Ambler. | 2. R. H. Bott.

Sir Trevor Lawrence then introduced the Lord Mayor in a few graceful words.

After distributing the prizes the Lord Mayor spoke as follows:—Mr. Chairman, Ladies and Gentlemen,—I feel it a very great honour to take such a prominent part in to-day's proceedings, one which usually is fulfilled by a distinguished physician or surgeon.

There are many things of which the Corporation may well be proud, but none is more worthy of our pride than St. Bartholomew's Hospital. The Hospital ever since the year 1544 has been intimately associated with the Corporation, and though I have the privilege of being associated with several city hospitals, I must confess that I am drawn most closely to the oldest of them, within whose walls I stand to-day.

We live, Mr. Chairman, in a period of progress, and no

hospital can hope to do its work efficiently nowadays unless its medical school is thoroughly up to date. In our London hospitals the importance of the medical school and the nursing home has at last begun to be more fully recognised, and I rejoice that during my year of office I have been associated with the Hospitals Fund. It affords me great pleasure to offer my congratulations not only to the numerous prizemen, but to you, Mr. Chairman, who have the honour to preside over this great institution; and I hope this Hospital may long continue and extend the work which it has carried on so nobly in the past.

Sir William Church then rose to propose a very cordial vote of thanks to the Lord Mayor for his kindness in coming to deliver the prizes, in spite of the fact that this was a peculiarly busy year for the Lord Mayor. The Lord Mayor had touched upon the close relation between the Corporation of the City of London and the Hospital.

Although Henry VIII was considered the second founder of the Hospital, yet the credit was really due to Sir Richard Gresham and the Corporation of London; and the Great Hall was chiefly the result of the bounty of the City of London. Sir William asked for a very hearty vote of thanks to the Lord Mayor. (Loud applause.)

The vote of thanks was seconded by Mr. Howard Marsh, who expressed the indebtedness of the School to the Lord Mayor, who was one of the busiest men in England, and whose motive in coming was therefore a very strong one.

The motion was put by Sir Trevor Lawrence, and was carried amidst great enthusiasm.

In reply, the Lord Mayor remarked that the afternoon's proceedings had given him very great pleasure; he yielded to none in his good wishes for the success of the Hospital; and he hoped that such great institutions would always be supported by voluntary effort, and never thrown upon the rates.

Mr. Langton proposed a warm vote of thanks to the Treasurer, to whom the Hospital is so much indebted. The Treasurer was an old student of St. Bartholomew's Hospital, and son of Sir William Lawrence, who was one of the greatest surgeons who have ever lived. Every one knew how admirably the Treasurer fulfilled his duties, and how much time and attention he gave to the affairs of the Hospital. The Treasurer had at heart the best interests of the School, and was carefully considering the many problems to be solved by the School in the near future.

Dr. Gee heartily seconded Mr. Langton's proposal, which was put to the meeting by the Lord Mayor, and carried with loud applause.

Sir Trevor Lawrence, in his reply, thanked Mr. Langton for his remarks, referred to the honour which he felt in holding the office of Treasurer, and alluded to the honour felt by the Hospital in having as Patron the King, and as President the Prince of Wales.

The proceedings then terminated, and every one adjourned to the Square, which, crowded with visitors and students, presented a very animated spectacle, tea and strawberries furnishing an agreeable conclusion to a most delightful and successful function.

Amalgamated Clubs.

THE UNITED HOSPITALS ATHLETIC CLUB.

THE thirty-sixth annual meeting of this club was held on June 25th, and was better attended than it has been for some years. This may have been owing to the probability of a keen struggle between St. Bart.'s and Guy's for the shield. As it was, Bart.'s won it quite easily, the surprise events being the 100 yards and 220 yards, which were won by W. H. Orton. The other winners from Bart.'s were H. E. Graham, who again won the half and one mile, D. M. Stone the weight, and J. G. Gibb the three miles. G. M. Levick was unlucky enough to hurt his ankle at our own sports, so that although he gallantly turned out to throw the hammer for us, it was not surprising that he did not win, although he got a second, which counts three points. Stone also tied for the second place in the high jump, P. Gosse being second in the one mile and the three miles. A new feature at this year's sports was the inter-hospital tug-of-war, which brought together again many of the Rugby forwards.

Unfortunately the judges refused to allow some of the heaviest men in our team to pull, on the ground that they were out of their year, so that the team was largely recruited from men who had come down to be spectators and not performers. Our first pull was with St. George's, whom we pulled over twice; but we, in our turn, were defeated by St. Thomas's after a most gallant struggle. The team was made up of the following:—Messrs. Carroll, Chaff, Douglas, Wilson, Hamilton, Gould, Marshall, and Scott. London eventually won the Cup, which was presented by the now defunct United Hospitals Bicycling Association.

The result of the day's sports was—

St. Bart.'s	1st,	with	72	points—6	firsts,	4	seconds.
Guy's	2nd	,,	36	,,	3 ,,	2	,,
London	3rd	,,	16	,,	1 first,	2	,,

The officials were—

President.—C. W. Mansell-Moullin, F.R.C.S.

Captain.—P. Gosse (St. Bart.'s).

Hon. Sec.—L. D. Bailey (St. George's).

Judges.—S. K. Holman, A. F. Voelcker, H. M. Fletcher, G. R. Turner, and J. H. Reay.

Referee.—C. Herbert, Esq.

Clerks of the Course.—Messrs. J. H. Drysdale, M.D.; J. G. Turner, F.R.C.S.; T. Lane, F.R.C.S.; and H. S. Desprez, M.D.

Timekeeper.—P. Furnival, Esq., F.R.C.S.

Starter.—E. H. Pelling, Esq.

PREVIOUS CHAMPION HOSPITALS.

1867—Guy's	1885—St. Bartholomew's
1868—St. George's	1886—St. Bartholomew's
1869—King's	1887—St. Bartholomew's
1870—King's	1888—St. Bartholomew's
1871—Guy's	1889—St. Bartholomew's
1872—Guy's	1890—St. Bartholomew's
1873—St. Bartholomew's	1891—St. Bartholomew's
1874—King's	1892—Guy's
1875—St. George's	1893—Guy's
1876—St. George's	1894—St. Bartholomew's
1877—Guy's	1895—Guy's
1878—Guy's	1896—St. Mary's
1879—St. Thomas's	1897—St. Mary's
1880—St. Thomas's	1898—St. Mary's
1881—St. Thomas's	1899—St. Bartholomew's
1882—St. Thomas's	1900—St. Mary's
1883—St. Thomas's	1901—St. Bartholomew's
1884—London	

The following is a detailed list of the events:

100 Yards Challenge Cup.
1st. W. H. Orton (St. Bart.'s).
2nd. W. T. Gibson (London).
3rd. T. Smith (St. George's).
Won by inches only. Time (against the wind)—10⅗ sec.

Half-mile Challenge Cup.
1st. H. E. Graham (St. Bart.'s, holder).
2nd. L. E. Wigram (St. Thomas's).
Won by five yards after a great race. Time—2 min. 3⅕ sec.

Putting the Shot.
1st. D. M. Stone (St. Bart.'s, holder), 36 ft. 7 in.
2nd. J. L. Rankin (Guy's), 35 ft. 1 in.

High Jump.
1st. J. E. Lascelles (St. Mary's, holder), 5 ft. 10 in.
2nd. { D. M. Stone, H. Sears, } tied with 5 ft. 4½ in.
Lascelles' jump constituted a record for this event.

220 yards Challenge Cup.
1st. W. H. Orton (St. Bart.'s).
2nd. T. C. Smith (St. George's).
3rd. E. Morgan (Guy's).
Won by five yards; two between second and third. Time—24⅕ sec.

One mile Challenge Cup.
1st. H. E. Graham (St. Bart.'s, holder).
2nd. P. Gosse (St. Bart.'s).
3rd. E. L. Pilbean (Guy's).
Gosse made the running till the bell, when Graham took the lead and won easily. Time—4 min. 39⅘ sec.

Throwing the Hammer.
1st. J. E. Rankine (Guy's).
2nd. G. M. Levick (St. Bart.'s).
3rd. E. E. Graham (St. Bart.'s).
Distance 100 ft. 3 in.

Quarter-mile Challenge Cup.
1st. R. W. Allen (Guy's).
2nd. H. C. Devas (St. Thomas's).
3rd. H. F. Collier (St. George's).
Won by four yards, inches separating the next two. Time—53⅘ sec.

Long Jump.
1st. E. Morgan (Guy's, holder), 20 ft. 6 in.
2nd. W. J. Gibson (London).

120 yards Hurdles.
1st. W. J. Gibson (London, holder).
2nd. E. M. Harrison (Guy's).
Won by three yards. Time—17⅗ sec.

Three mile Challenge Cup.
1st. J. G. Gibb (St. Bart.'s, holder).
2nd. P. Gosse (St. Bart.'s).
3rd. A. G. Simmons (St. Thomas's).
Gibb led all the way, winning easily in 15 min. 57 sec.

Reviews.

DISEASES OF THE ORGANS OF RESPIRATION. By SAMUEL WEST, M.D., F.R.C.P., Senior Physician to the Royal Free Hospital; Assistant Physician to St. Bartholomew's Hospital.

Dr. West describes his work as a "Treatise on the Ætiology, Pathology, Diagnosis, Prognosis, and Treatment of Diseases of the Lungs and Air-passages." It is obvious that such a treatise must of necessity be bulky if it is to be in any sense of the word complete, for it has to cover an immense amount of ground. Let us say at once that Dr. West has succeeded in producing an admirable and exhaustive book, in which the many and various affections of the lungs and air-passages are elaborately treated from the clinical and pathological points of view. Dr. West's great experience in such diseases enables him to illustrate many of his points in diagnosis and treatment from cases that have come under his own observation—a fact that adds immensely to the interest and usefulness of the work, and gives to many of the opinions expressed the weight of personal experience.

Dr. West does not hesitate to express dogmatic opinions—a fact which necessarily lays him open to attack from those who differ from him; but the value of the work is much increased thereby, for the most valuable addition to medical literature at the present time is the free expression of the opinions that a close and accurate observer has come to after much clinical practice.

The pathological and bacteriological sections are largely composed of extracts from recent works, and, on the whole, they give a fairly complete *résumé* of the various subjects treated.

To come to details, the sections in the first volume that are especially good are those dealing with bronchitis, emphysema, and the pneumonias, though we do not consider that Dr. West has made out a convincing case for the existence of capillary bronchitis as a clinical and pathological entity apart from broncho-pneumonia. As regards the ætiology of what Dr. West calls "ordinary, genuine, true, large-lunged emphysema," we are pleased to see that he insists on the inadequacy of the various mechanical explanations to account for the condition without some structural change occurring first. He would have strengthened his case if he had quoted some recent statistics that point very strongly to an hereditary factor as present in a large proportion of the cases.

In the second volume the longest section is that dealing with phthisis. We regret that Dr. West should have retained this word for all cases of pulmonary tuberculosis, for it conveys a certain clinical picture which it is the object of modern treatment to prevent rather than to cure, and we consider that Dr. West's somewhat pessimistic views of the ultimate history of cured tubercle would be modified by the consideration of the numerous cases who have been able to devote a year to their recovery, and when the diagnosis has been made in the earliest stages and before the classical symptoms of "phthisis" have occurred.

The section dealing with the various climates that have been recommended for tuberculous patients contains a great deal of information that cannot fail to be of use to those who have to give advice on this difficult subject. At the same time we wish that Dr. West had gone more fully into the subject of sanatorium treatment; some authoritative

statement on the results and prospects of this system of therapeutics is much needed at the present time.

Pleurisy in its various forms is treated fully and in an interesting manner; the same is true of the section dealing with pneumothorax. Dr. West makes a very strong case in favour of radical operative treatment of pyopneumothorax, and the cases he quotes in support of his practice seem to us to be conclusive. The clinical account of asthma is excellent, and there is a short review of the various theories in vogue as to its causation. Dr. West sums up in favour of spasm of the bronchial muscles and diaphragm "associated in many cases with more or less vaso-motor disturbance in the bronchi."

The whole work is fully illustrated with many admirable microscopic and post-mortem figures, most of which appear for the first time. This adds considerably to the value of the book, which being, as it is, the result of a patient accumulation of facts, and the outcome of a large experience, will prove to be a useful addition to medical literature.

IMPRESSIONS OF A DOCTOR IN KHAKI. By FRANCIS E. FREMANTLE, M.A., M.B., B.Ch.Oxon., M.R.C.P., D.P.H. (London: John Murray. Price 10s. 6d.)

Few books on the war have interested us more. We are impressed alike with a fascinating narrative, vividly written, with criticisms frankly expressed, and with the value of the book afforded by its insight into the minute details and inner workings of the medical service; an insight which can only be obtained from the unfettered civilian who has seen, marked, and inwardly digested.

Dr. Fremantle went out from Guy's as one of the pioneer civil surgeons on the "Rosslyn Castle," which carried the first detachment of the 1st Army Corps.

The book is written in diary form, and furnishes impressions jotted down when still fresh and vivid; this greatly adds to its value. The freedom and independence of these impressions is quite refreshing. Dr. Fremantle's experience embraced life in a base hospital, in a hospital ship, in a field hospital, in sick convoys, in the trek, and in the field of battle.

The author was at Wynberg during the heavy fighting under Methuen at a time when practically all the wounded were sent to the base, and when there were many deficiencies and much to criticise. If the strictures are severe they are none the less convincing. Here is an extract from Wynberg referring to the hospital orderlies:—"I went into one of my huts on Sunday, and found that my head nurse, so to speak, was confined to cells for being drunk on the previous night; and the only remaining orderly said that that was nothing, as he had had eleven days not long ago, and lost his corporal's stripes after fourteen years' service. 'It ain't no game, this job, it ain't,' he continued. 'I'm going to chuck it, sir, when I gets 'ome; try some other trade. Eightpence a day! Lor' blimy!' And the orderlies curse the patients for not helping them, and the patients curse the orderlies for making them do all the work. What can one expect under such conditions? . . . The whole system is bad, and is primarily due not to the exigencies of war, but to the exigencies of a slowly grown, iron-bound, almost mathematised system, clogged with trivialities, and hampered at every turn by an excess of officials, official returns, and all the paraphernalia of red tape." This was in the days when nurses were clamouring to be sent out, and were not sent; orderlies, like "unmounted men," were preferred.

We get considerable insight into the life and character of Tommy Atkins, and many a good anecdote. Here we have a fine apology for war:—"After all, an army represents pretty well the scum of the earth at its very best, and it is because it gives the scum its chance of getting to its very best and becoming no longer scum that the army is, perhaps, the greatest philanthropic institution in the nation."

The following extract gives an excellent account of field-hospital work following the battle of Dornkop, now known as the battle of Johannesburg:

"The field hospital had been erected. The sergeant and corporal cooks had made an ant-heap into a fireplace, and were preparing hot milk, tea, and bovril over a roaring fire made of barbed-wire fence-posts. By 5.30 the first batch of wounded had arrived, and were lying in a row, wrapped up in their blankets, the worst cases on stretchers, the rest on the ground outside the tents. The sergeant-major walked to and fro with hot drinks and rum. The two chaplains of the brigade went round talking to the men, distributing cigarettes, keeping the "nominal roll," carrying lights for the medical officer, tending the dying, and cheering everybody in turn. The only medical officer available, having never before seen a field hospital at work after action, struggled with the arrangements in general, and every now and again was able to dress a wound or superintend an R.A.M.C. orderly in treating a simple case. One tent was kept as a surgery. The rest were filled as they were erected with patients carried or helped out from the surgery. The surgery tent, an ordinary bell-tent, twelve feet across, was supplied with two panniers, which stood on the right of the door, to support one stretcher at a time, and so enable the worst cases to be attended to without more discomfort than was necessary. On the left of the doorway were the antiseptic and fracture boxes, with an orderly to distribute their contents. Beyond them on the left side of the tent, and again at the further end, two other orderlies were able to treat slight cases sitting on the ground. But the work of the medical officer in charge, in supervising the slight cases, trying himself to dress the severe cases, and being constantly called away from the surgery tent, was difficult and vexatious in the extreme. 'Where shall this tent be pitched, sir?' and he had to go and explore the ground in the neighbourhood.

"'I ain't been looked at yet, sir,' remarked two or three of the Gordons, as he nearly tripped over them in the dusk. 'I 'aven't got no blanket, sir,' complained a fourth poor chap, looking very cold in his kilt. 'There won't be enough bovril to go round, sir,' said the cook. 'The General is here, sir,' reported the corporal. 'May we have our stretcher, sir?' asked four Gordon stretcher-bearers, who had carried a 'fractured thigh' two miles, and would now have to transfer him to the ground. 'Twelve more wounded, sir,' said the staff-sergeant, coming up with some of the ambulance waggons. 'The officers' tent has got four cases in it already, sir; where shall Captain —— go to?' 'That corporal, sir, is dying; will you come and see him?' 'Mr. ——, sir, is ready for you to dress him; he has been waiting rather a long time.' Poor M— of the Gordons was brought in, shot through the neck, lying peacefully on a stretcher. He had already passed to his rest. F— of the Cornwalls, a universal favourite, lay unconscious in the corner of a crowded tent, and followed him before midnight. Fortunately, as matters were reaching a climax, Providence arranged that three Australian doctors, Major M. C—, and Lieutenants R— and H—, should miss their way; and they, with Surgeon-Captain R— of the mounted C.I.V., his veterinary colleague, and his orderly, came and offered their services. All turned to with a will. The consulting surgeon from Sydney stood on one side of the tent and dressed cases. The C.I.V. trio stooped on the other side and dressed their cases.

"The other Australians kept count of every case on arrival, fed the surgery tent, and themselves dressed many cases in turn, just as they were lying out on the ground, while the officer in charge was free to put his hands in his pockets and answer questions. It was pitch-dark, and there were but three lanterns and a few naked flickering candles. It was horribly cold, and the troops had been without rations, except of meat, all day, and had no prospect of any for the next. The supply of milk and bovril in the hospital was limited; the supply of spare blankets still more so. However, help came from various quarters. The General and his staff sent their private blankets, and lent others which once belonged to Boers. The supply officer raked in some extra supplies from somewhere. The N.C.O.s and men worked like slaves. The adjutant of the Gordons, and twenty-five of his men, despite the fatigues of the day, brought down from their camp, two miles away, the kits of the wounded Highlanders, and were up till nearly midnight distributing them. Above all, the surgical work progressed slowly but steadily."

One of the most readable chapters in the book is one in which the writer describes a visit to a Boer commando, Theron's scouts. Having set out with his servant to find some wounded men of Locke's Horse, he falls in with the commando, and spends the night with them. The commandant was a splendid liar and a tremendous hero.

In his conclusion, which Dr. Fremantle divides into three parts, written at different periods, he draws attention to some of the most obvious faults both in the system and the constitution of the R.A.M.C. Further, he points out—what has been from the first obvious to the medical profession—that the Hospitals Commission was only allowed to see and hear what was thought proper by the senior officers of the respective hospitals. In the second part he sketches out the problems which, in his opinion, have to be faced in any reforming scheme, and outlines a scheme of his own for an entirely civilian service. In the third part, however, after he has served as secretary to Mr. Brodrick's committee, he admits that "opinion is not yet ripe for such a revolution," and accepts with enthusiasm the recommendations of the committee. How far he is justified may be judged from the present competition for thirty vacancies in the R.A.M.C., more than seventy candidates having presented themselves.

In conclusion, we venture to congratulate Dr. Fremantle on the energy and industry which have produced this book, delightfully refreshing in its style, and extremely interesting both to the laity and the medical man; and if it serves in future times of trouble to bring the civilian into closer touch and greater harmony with his professional brethren in the service it will indeed have accomplished a great end.

The book is most attractively bound, and the illustrations from photographs and pen-and-ink sketches excellently reproduced.

Junior Staff Appointments.

HOUSE SURGEONS.

Mr. Langton	October, 1902	E. L. Farncombe, B.A. (Oxon.), M.R.C.S., L.R.C.P.
,,	April, 1903	H. V. Wenham.
Mr. Marsh	October, 1902	E. C. Mackay, M.R.C.S., L.R.C.P.
,,	April, 1903	V. G. Ward, M.B.(Lond.), M.R.C.S., L.R.C.P.
Mr. Butlin	October, 1902	E. E. Young, M.B., B.S. (Lond.), M.R.C.S., L.R.C.P.
,,	April, 1903	R. C. Elmslie, M.R.C.S., L.R.C.P.
Mr. Walsham	October, 1902	J. F. Alexander, M.A., B.C.(Cantab.), M.R.C.S., L.R.C.P.
,,	April, 1903	A. M. Amsler, M.R.C.S., L.R.C.P.
Mr. Cripps	October, 1902	F. P. Connor, M.R.C.S., L.R.C.P.
,,	April, 1903	H. Love, M.R.C.S., L.R.C.P.
INTERN	October, 1902	E. H. Hunt, M.A., M.B., B.Ch.(Oxon.), M.R.C.S.,
EXTERN	,,	L.R.C.P., C. W. von Bergen, M.B., B.S.(Durham), M.R.C.S., L.R.C.P.
,,	January, 1903	J. C. Sale, M.R.C.S., L.R.C.P.
OPHTHALMIC HOUSE SURGEON	October, 1902	J. Corbin, M.R.C.S., L.R.C.P.

Calendar.

Aug. 12.—On duty.	Dr. Hensley and Mr. Walsham.
,, 15.—On duty.	Sir Lauder Brunton and Mr. Cripps.
,, 19.—On duty.	Sir William Church and Mr Langton.
,, 22.—On duty.	Dr. Gee and Mr. Marsh.
,, 26.—On duty.	Sir Dyce Duckworth and Mr. Butlin.
,, 29.—On duty.	Dr. Hensley and Mr. Walsham.
Sept. 2.—On duty.	Sir Lauder Brunton and Mr. Cripps.
,, 5.—On duty.	Sir William Church and Mr. Langton.
,, 9.—On duty.	Dr. Gee and Mr. Marsh.
,, 12.—On duty.	Sir Dyce Duckworth and Mr. Butlin.
,, 16.—On duty.	Dr. Hensley and Mr. Walsham.
,, 19.—On duty.	Sir Lauder Brunton and Mr. Cripps.

Examinations.

CONJOINT BOARD.

Anatomy and Physiology.—C. H. Fernie, A. C. Wroughton, E. H. Shaw, R. C. P. McDonagh, W. G. Loughborough, J. S. Williamson, W. H. Harvey, J. G. Gibb, R. V. Favell, R. C. P. Berryman, G. I. Morse, G. J. Eady, J. R. R. Trist, F. Gooding.

Examination for Diploma of D.P.H.—A. R. J. Douglas, F.R.C.S.; H. Mundy, F.R.C.S.

UNIVERSITY OF LONDON.

Intermediate Examination in Medicine.

Entire Examination.—First Division.—R. H. Bott, C. H. Fielding.

Second Division.—W. G. Ball, W. H. Barnett, C. B. D. Butcher, B. E. Moss, J. E. Pratt.

Physiology only.—J. G. F. Hosken, S. W. Milner.

Honours List.—F. B. Ambler, Third Class Honours in Physiology and Histology; J. C. Meade, Third Class Honours in Anatomy.

Appointments.

DRUITT, A. E., M.R.C.S., L.R.C.P., D.P.H.(Cantab.), appointed under Church Missionary Society to West Africa Mission in Hausaland.

* * *

MAYNARD, Major F. P., M.B., F.R.C.S.Eng., I.M.S., appointed to act as Ophthalmic Surgeon and Professor of Ophthalmic Surgery in the Medical College, Calcutta.

* * *

MUNDY, H., F.R.C.S., appointed Surgeon to the ss. "Ingeli."

New Addresses.

JONES, H. LEWIS, 143, Harley Street, W.

WARDE, A. B., Northumberland Lodge, Bloemfontein, Orange River Colony.

Birth.

MASTERMAN.—On July 2nd, at Jerusalem, the wife of E. W. Gurney Masterman, F.R.C.S., D.P.H.Cantab., of a daughter.

Death.

CORFIELD.—On July 14th, at Gothic House, Upper Tooting, Phyllis Marjorie, only child of Carruthers Corfield, M.R.C.S.(Eng.), L.R.C.P. and L.S.A.(Lond.), aged eighteen months.